

REMARKS

Reconsideration of the present application is respectfully requested. In this amendment, claims 8, 31 and 39 have been amended. No new matter has been added. Claims 2-5, 8-20, 26-31, 34-37 and 39-41 remain pending.

Claims 14-20 and 41 stand allowed. Claims 2-5, 8-13, 26-31, 34-37, 39 and 40 stand rejected under 35 U.S.C. § 103(a) based on European patent application no. EP 0424071 of Peckham ("Peckham") in view of U.S. Patent no. 6,067,520 of Lee ("Lee").

Applicant respectfully traverses the rejections. The amendments to the claims are made only to place the claims in what Applicant considers to be a better form. The amendments are not made in response to the rejections or to comply with any statutory requirement of patentability, since no such amendments are believed to be necessary.

Claim 31, as amended, recites:

31. A machine-readable program storage medium tangibly embodying a sequence of instructions executable by a machine to perform a method for endpoint detection, the method comprising:
inputting speech representing an utterance, the utterance having an intonation, **the utterance including a plurality of syllables;**
determining a duration of the final syllable of the utterance; and
identifying an *endpoint* of the utterance based on the intonation of the utterance and based on the duration of the final syllable of the utterance.
(Emphasis added.)

The cited references, either individually or in combination, do not disclose or even suggest determining an endpoint of an utterance based on the intonation of the utterance and the duration of the final syllable of the utterance. Although Applicant's arguments are directed to the alleged combination of references, it is useful to first

consider their individual disclosures, in order to ascertain what combination, if any, could be made from them.

As to Peckham, the Office admits that Peckham fails to disclose identifying an endpoint of the utterance based on the duration of the final syllable of the utterance (Office Action, p. 3, regarding claim 8). However, the Office contends that Lee discloses such an operation (particularly at column 9, line 62 to col. 10, line 29). The Office is mistaken.

Lee generally discloses a technique for automatically recognizing Mandarin speech. Lee discloses that first, endpoints of speech segments are detected, and then, the detected speech segments are recognized using “‘base syllable recognition’ means” and “‘tone recognition’ means” (col. 5, lines 41-50). Subsequently, Lee describes the process of endpoint detection in col. 6, lines 13-36 (note this is not the section of Lee cited by the Office). Notably, there is no hint or suggestion in col. 6, lines 13-36 of basing the endpoint detection on the duration of the final syllable of an utterance.

Later, in the section cited by the Office (col. 9, line 62 to col. 10, line 29), Lee describes the process of recognizing base syllables and tone. As disclosed in Lee, the recognition process includes identifying ending points of individual syllables. However, that is not the same as, nor any suggestion of, detecting an endpoint of an utterance that includes multiple syllables, as recited in claim 31. Again, Lee discloses detecting endpoints of multiple-syllable utterances at col. 6, lines 13-36, where there is no hint of using the duration of the final syllable of an utterance.

Furthermore, Lee at col. 9, line 62 to col. 10, line 29, only discloses using statistical (probable) minimum and maximum durations of a typical syllable (col. 10,

lines 2-5). There is no suggestion of using the duration of the final syllable of an utterance for endpoint detection.

For at least these reasons, therefore, claim 31 and all claims which depend on it are patentable over the cited combination of art.

Furthermore, the Office's stated rationale for combining the teachings of Lee with the teachings of Peckham lacks merit. The Office contends that combining their teachings would be obvious "because an skilled [sic] artisan would readily recognized [sic] that would particularly detect the end point of the utterance, which helps the recognition process." Office Action, p. 3. That statement does not withstand scrutiny, however, because Peckham already discloses an endpoint detection technique (as the Office has already pointed out -- Office Action, p. 2), and there is no basis to conclude that the technique in Peckham would be improved by substituting the endpointing technique disclosed in Lee. Hence, there is no reason that one skilled in the art would be motivated to attempt to combine the teachings of Lee with those of Peckham.

To establish obviousness, there must be something in the prior art as a whole to suggest the desirability of making the alleged combination. In re Rouffet, 149 F.3d 1350, 1356 (Fed. Cir. 1998). Such suggestion may not be found using hindsight gleaned from the applicant's specification. Id. at 1358. There is absolutely no suggestion in the cited art to combine the teachings of Peckham and Lee in the manner cited by the Office, even assuming *arguendo* they disclose what the Office alleges (which they do not).

Claims 8 and 39 include limitations similar to those in claim 31 discussed above. Therefore, claims 8 and 39 and all claims which depend on them are also patentable over the cited combination of art.

Claim 9 recites:

9. A method of operating an endpoint detector, the method comprising:
inputting speech representing an utterance, the utterance having an intonation; and
comparing the intonation of the utterance with an intonation model;
determining a probability based on a result of said comparing; and
identifying an endpoint of the utterance based on the probability.
(Emphasis added.)

Regarding claim 9, the Office admits that Peckham fails to disclose:

comparing the intonation of the utterance with an intonation model;
determining a probability based on a result of said comparing; or
identifying an endpoint of the utterance based on the probability.

However, the Office cites Lee as disclosing such features. The Office is mistaken. The Office contends that the "tone models" disclosed in Lee read on the "intonation model" of claim 9 (Office Action, p. 5, citing Lee at col. 9, line 62 to col. 10, line 30). However, the tone models in Lee are not used to identify endpoints of utterances or individual syllables; they are used to recognize the syllables after the endpoints of the syllables have been identified. In Lee, the ending points of an individual syllable are identified, and then the syllable is compared to the base syllable model and the tone model to recognize the syllable. See col. 10, lines 1-17. Consequently, in contrast with claim 9, Lee does not disclose or suggest determining a probability based on a result of

comparing the intonation of the utterance with an intonation model, and then
identifying an endpoint of the utterance based on that probability.

For at least these reasons, therefore, claim 9 and all claims which depend on it are patentable over the cited combination of art.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

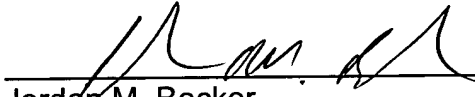
Conclusion

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If any additional fee is required, please charge Deposit Account No. 02-2666.

Respectfully submitted,
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